SAMPLE MEDICAL CENTER

Final Report: Substance Abuse Services Need (One Example Report)

July 9, 2020



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Project Goals

- Complete a study of the need for Substance Use treatment services for adults in Medical Center's market
- Provide detailed analyses, findings and recommendations
- Present, review and discuss draft report
- Finalize report



Substance Use Treatment Services Addressed in the Study

- Hospital Inpatient adult bed need
- Short Term and Long-Term Residential Treatment need
- Outpatient Services Need
 - Intensive Outpatient
 - Non-Intensive Outpatient
 - Ambulatory Detoxification
- Additional Criminal Justice System Information
- Potential need for a Sobering Center



About Findings & Recommendations

- Findings and Recommendations are based on the experience of Schafer Consulting Inc. working with hospital systems providing behavioral health programs throughout the United States
- Other findings and recommendations may be derived from the data and information
- Additional details are available upon request based on the analyses but are not always shown
- A community survey distributed by Medical Center received too few responses for the results to be aggregated and included in the report



EXECUTIVE SUMMARY

Key Findings & Recommendations



Key Findings & Recommendations

- 1. The demand for additional inpatient Substance Use Disorder beds warrants consideration of developing this capacity
- 2. With Prelude leaving the market, there will (or is) a need for Residential alcohol / drug treatment
- Based on the volume of referrals and arrests substance use, a Sobering Center could help divert these individuals from jails and hospital Emergency Rooms in the region while improving access to, and initiating, treatment
- 4. The payer mix for Substance Use treatment in the' market is, like most of the US, primarily Medicaid or lower reimbursements
- 5. In order to address community need for each of these programs, we recommend that Medical Center consider partnering with other healthcare systems and Behavioral Health agencies to jointly develop and provide these services. There is opportunity to jointly serve this community need



Need for Substance Use Treatment Services in the 6 County Region

- There is a definite need for additional hospital inpatient beds focused on Substance Use treatment. The region's available beds is not sufficient to meet needs based on prevalence and use rates. This will increase over the next five years
- In the region, hospital inpatient detox is used at a higher rate than in the State and the Midwest where most detox is provided in freestanding residential programs or in outpatient
- The need for additional residential treatment beds is somewhat unclear, depending on whether Prelude's 720 reported adult discharges were counted in the federal Treatment Episode Data Sets
- Intensive and non-intensive outpatient treatment cases are in line with what is expected for the region
- Based on the volume of referrals from the Courts and Law enforcement, a Sobering Center would help defer admissions to hospital Emergency Departments or jail, and help inebriated individuals get quicker access to care



Executive Summary Service Needs in the Market

Treatment Program	Need
Inpatient Hospital Substance Use	7-10 beds in 2020; 11-18 Beds 2025
Detoxification Services (hospital based, free-standing residential, and ambulatory)	271 more additional cases in 2020 increasing to 300 in 2025
Residential Treatment (hospital based residential, short and long term residential)	With Prelude discharges, no additional beds Without Prelude, about 520 too few cases
Ambulatory (intensive and non-intensive outpatient)	12-13% more cases than expected
Sobering Center	Yes; 50% of all referrals for Substance Use treatment come from the Courts and Criminal Justice System



Primary Substances Used

- As with previous years, the region is highest in Alcohol abuse
- Second most abused substance is Methamphetamine
- Both the State and the 6 County Region have a high rate of Methamphetamine abuse compared to the Midwest United States
- The 6 County Region has a lower rate of Heroin use than the Midwest but slightly higher than for the State
- Alcohol and Methamphetamine account for 62% of all Substance Use treatment admissions in the 6 County Region



6 County Demographic Trend 2020-2025

- The adult population will increase about 25,733 adults age 18+
- The 65+ age group has the highest percent growth rate during this time of 16%
- Total Personal Income is expected to increase 25% from a median of \$55,868 to \$69,685
- Mean Household Total Personal Income is expected to increase 24%, from \$139,503 to \$173,021
- The number of households with income of \$100,000 or more is projected to increase 14% between 2020 and 2025
- Overall, the region has a higher per capita income compared to the rest of the United States

Source: Woods & Poole Economics, 2019 State Profile Series



Substance Use Prevalence

- Based on the National Survey of Drug Use and Health, the State has a higher prevalence (9.6%) of the adult population than the rest of the United States (7.52%) in 2019
- The higher prevalence also is true when comparing State to the Midwest Region of the country (7.8%)
- Based on Substance Use Disorder prevalence rates for adults, about 48,000 in the 6 County Region will have this disorder in the past year (2020)
- As the prevalence rate is forecast to increase slightly as well as the adult population in the Region, the number of adults with a Substance Use Disorder will also increase
- This prevalence trend is factored into the need for inpatient, residential, and outpatient services from 2020-2025



Needing But Not Receiving Treatment in a Specialized Facility

- The number of adults in the 6 County Region reporting "Needing but Not Receiving Treatment in a Specialized Facility" for Substance abuse in the year 2020 is estimated to be 40,850
- This is 1.7% higher than reported by adults in the United States as a whole
- This % difference is factored into the demand for Substance Use treatment in the market



Additional Information for Planning: Referrals, Arrests, Wait Time for Treatment

- 50% of all referrals for Substance Use treatment come from the Courts and Criminal Justice system. They are on the front lines of alcohol and drug abuse interdiction and often the first to provide both public safety and help individuals begin the often long road to recovery
- Although data for arrests prior to starting treatment shows most clients have none, the data does not capture arrests in the previous 60, 90 or more days. Nationally and in the Midwest US, 10% of those going into treatment have been arrested at least once
- The average wait time to start treatment in the 6 County Region is much lower than for the rest of the State



Additional Information for Planning: Payer Mix

6 County Region Adult <u>Substance</u> <u>Use Tx Only (all Service Types,</u>

- e.g. Detox, RTC, Outpatient)
- Medicaid, 47%
- 2. Private/Commercial, 22%
- 3. Other Government, 17%
- 4. Self Pay, 7%
- 5. No Charge, 2%

Medical All Psychiatric Inpatient

- 1. Medicaid, 49%
- 2. Medicare, 29%
- 3. Private / Commercial, 10%
- 4. Other, 6%
- 5. Self Pay, 7%

- The 6 County Region primary source of payment for all Substance Use
 Treatment services reported in the Treatment Episode Data Set indicates a
 22% Private/Commercial payer, about twice that of inpatient psychiatric unit
- Medicaid is the top payer in the 6 County Region and at Medical Center for the inpatient psychiatric unit (all BH diagnoses)



PRIMARY SUBSTANCES USED

6 County Region, State, and the Midwest by Service Type



Comparison of Primary Substances Used at Admission for Adults Entering Treatment by Geographical Region

Primary Substance Associated with Treatment Admission	6 County %	lowa %	Midwest %
Alcohol	37%		36%
Methamphetamine	₹ 26%	29%	16%
Marijuana	16%	21%	13%
Other Opiates / Synthetics	10%	4%	7%
Heroin	7%	3%	21%
Cocaine	2%	2%	5%
Benzodiazepines	0%	0%	1%
Other Amphetamines	0%	0%	1%

- Table ranked by % of primary substance used for adults age 18+ entering treatment in specialized alcohol / drug programs (detox, residential, outpatient) in the 6 County Region
- Through all three regions, alcohol ranks first
- Compared to the Midwest region of the country, the State and the 6 County Region have lower admissions for heroin but higher admissions for Methamphetamines



6 County Region by Substance Use and Service Type

6 County Region Service	Alcohol	Meth	Marijuana	Other Opiates / Synthetics	Heroin	Cocaine	All Other Drugs	Total Cases
Detox, 24-hour, hospital inpatient	184	1		1		1	-	187
Detox, 24-hour, free-standing residential	1				1		1	3
Residential, short term (30 days or fewer)	39	81	11	15	10	1	-	157
Residential, long term (more than 30 days)	6	27	2	4	5	1	1	45
Ambulatory, intensive outpatient	390	226	71	94	78	16	20	895
Ambulatory, non-intensive outpatient	390	381	364	159	107	26	29	1,456
Ambulatory, detoxification	2	1		2			1	5
Total Cases	1,012	717	448	275	201	45	50	2,748
Percent	36.8%	26.1%	16.3%	10.0%	7.3%	1.6%	1.8%	100.0%



- Alcohol and Methamphetamines account for 62% of admissions for adult patients entering specialized substance use treatment programs in this region
- Hospital detox, Intensive and Non-Intensive Outpatient treatment are the most used service types



State Substance Use and Service Type

Iowa Service	Alcohol	Meth	Marijuana	Other Opiates/ Synthetics	Heroin	Cocaine	All Other Drugs	Total Cases
Detox, 24-hour, hospital inpatient	187	3		1	1	1	1	194
Detox, 24-hour, free-standing residential	445	216	34	36	77	35	16	859
Residential, hospital (non-detox)	2	6		1			-	9
Residential, short term (30 days or fewer)	891	1,409	232	126	144	66	54	2,922
days)	49	97	28	10	12	5	4	205
Ambulatory, intensive outpatient	1,831	1,412	804	242	205	110	99	4,703
Ambulatory, non-intensive outpatient	5,184	3,359	3,620	484	258	180	173	13,258
Ambulatory, detoxification	4	1	2	4	2		-	13
Total Cases	8,593	6,503	4,720	904	699	397	347	22,163
Percent of Total	38.8%	29.3%	21.3%	4.1%	3.2%	1.8%	1.6%	100.0%



- Alcohol, Methamphetamines, and Marijuana account for 68% of admissions to specialized substance use treatment programs in the State
- Ambulatory Intensive and Non-Intensive Outpatient, Short Term Residential, and Residential Detox are the most used service types



Midwest Substance Use and Service Type

Midwest Service	Alcohol	Heroin	Meth	Marijuana	Other Opiates / Synthetics	Cocaine	Other Drugs	Total Cases
Detox, 24-hour, hospital inpatient	542	196	19	9	30	8	21	825
Detox, 24-hour, free-standing residential	15,235	15,523	3,718	542	2,768	1,643	742	40,171
Residential, hospital (non-detox)	784	120	112	19	59	16	46	1,156
Residential, short term (30 days or fewer)	16,407	9,804	10,554	3,055	3,127	3,382	1,483	47,812
days)	6,991	4,667	4,984	1,396	996	1,909	554	21,497
Ambulatory, intensive outpatient	25,983	10,278	14,664	11,694	4,037	3,884	2,271	72,811
Ambulatory, non-intensive outpatient	41,420	22,841	14,983	22,763	10,387	5,164	5,046	122,604
Ambulatory, detoxification	3,676	689	148	51	231	19	43	4,857
Total Cases	111,038	64,118	49,182	39,529	21,635	16,025	10,206	311,733
Percent of Cases	35.6%	20.6%	15.8%	12.7%	6.9%	5.1%	3.3%	100.0%



- In the Midwest US, Alcohol, Heroin, and Methamphetamines account for 72% of adult admissions
- The most frequently used services are Non-Intensive Outpatient, Intensive Outpatient, and Short Term Residential



POPULATION DEMOGRAPHICS

2020-2025



Population & Economic Trend 2020-2025

Population Increases:

- The 6-county region age 18+ population will have an overall 5% increase from 2020 2025
- This is an increase of 25,733 people, age 18+
- The age 65+ age group has the highest percentage growth rate at 16%, increasing by 15,703 over the five year period

Income increases:

- Total Personal Income per capita will increase 25% from \$55,868 to \$69,685
- Mean Household Total Personal Income will increase 24% from \$139,503 to \$173,021
- The number of households with income of \$100,000 or more increases 14% between 2020 and 2025



Region Population Change by Adult Age Group 2020-2025

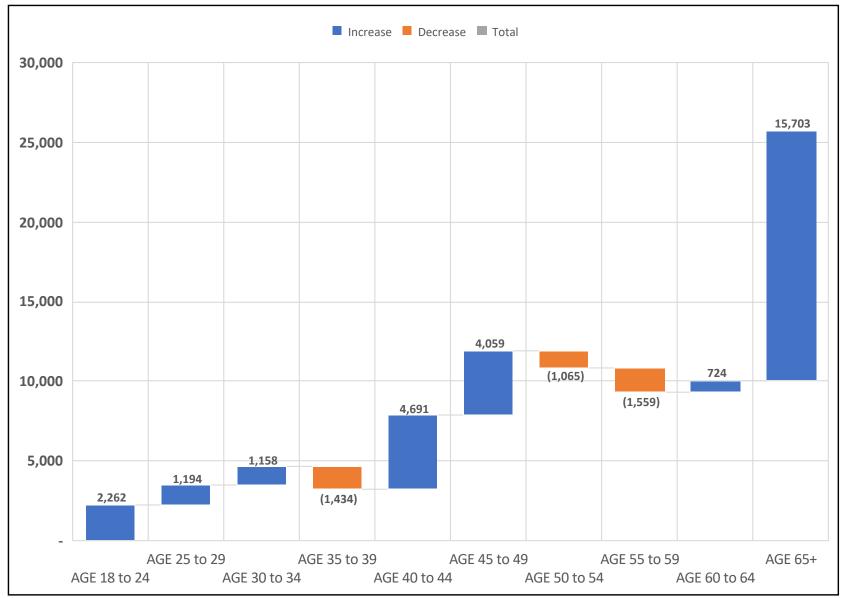
Age Group	Yr2020	Yr2021	Yr2022	Yr2023	Yr2024	Yr2025	Change	%
AGE 18 to 24	59,637	60,387	60,947	61,371	61,766	61,899	2,262	4%
AGE 25 to 29	49,674	49,635	49,641	49,889	50,285	50,868	1,194	2%
AGE 30 to 34	49,736	49,920	50,543	51,053	51,280	50,894	1,158	2%
AGE 35 to 39	51,727	51,769	51,249	50,686	50,611	50,293	(1,434)	-3%
AGE 40 to 44	47,055	48,684	50,071	51,133	51,485	51,746	4,691	10%
AGE 45 to 49	42,498	41,643	41,938	43,118	44,748	46,557	4,059	10%
AGE 50 to 54	42,776	43,548	43,672	43,277	42,460	41,711	(1,065)	-2%
AGE 55 to 59	42,902	41,896	41,176	40,707	40,619	41,343	(1,559)	-4%
AGE 60 to 64	39,583	40,336	40,679	40,886	40,984	40,307	724	2%
AGE 65+	100,544	103,503	106,527	109,544	112,628	116,247	15,703	16%
Adults	526,132	531,321	536,443	541,664	546,866	551,865	25,733	5%

- Region = Dallas, Guthrie, Jasper, Madison, Polk, Warren Counties
- The overall population increases 5%
- The largest increase is for older adults, followed by age groups 40-44 and 45-49
- Three age age groups decline: 35-39, 50-54, and 55-59



Source: Woods & Poole

Region Population Change by Age Group Graph





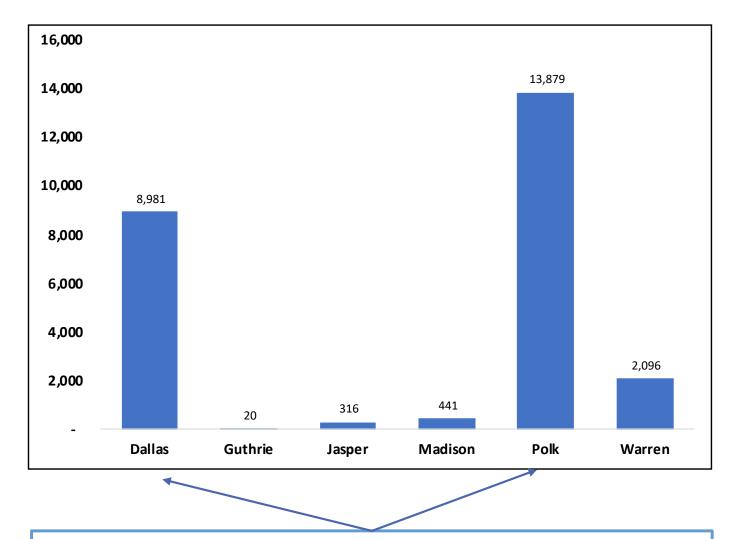
Region Counties Population Change 2020-2025

County	Yr2020	Yr2021	Yr2022	Yr2023	Yr2024	Yr2025	Change	%
Dallas	67,776	69,525	71,260	73,052	74,930	76,757	8,981	13%
Guthrie	8,302	8,342	8,355	8,340	8,335	8,322	20	0%
Jasper	28,913	28,998	29,059	29,143	29,206	29,229	316	1%
Madison	12,261	12,336	12,434	12,551	12,646	12,702	441	4%
Polk	369,742	372,532	375,367	378,151	380,906	383,621	13,879	4%
Warren	39,138	39,588	39,968	40,427	40,843	41,234	2,096	5%
Adults	526,132	531,321	536,443	541,664	546,866	551,865	25,733	5%

- On a volume change basis, Polk County will gain almost 14,000 adults, a 4% increase
- On a percent change basis, Dallas County leads all counties with an adult population increase of 13%



Region Counties Population Change Graph



Largest growth: Polk and Dallas Counties



Personal and Household Income Trend

Measure	Yr 2020	Yr 2021	Yr 2022	Yr 2023	Yr 2024	Yr 2025	% Change
MEAN HOUSEHOLD TOTAL PERSONAL INCOME (in current dollars)	139,503	144,787	150,943	157,603	164,970	173,021	24%
TOTAL PERSONAL INCOME PER CAPITA (in current dollars)	55,868	58,192	60,773	63,504	66,476	69,685	25%

- Both mean household and personal per capita incomes for the Core Based Statistical Area are projected to significantly increase from 2020 to 2025
- This is a positive economic trend; for example, the region has a higher per capita income compared to the United States \$32,621 (2018 US Census)



Household Money Income

Number of Households with Money Income (in thousands of households, 2009 dollars)	Yr 2020	Yr 2020 % of Households	Yr 2021	Yr 2022	Yr 2023	Yr 2024	Yr 2025	Yrs 2020-2025 Percent Change
LESS THAN \$10,000	19.703	6%	19.661	19.55	19.418	19.233	19.024	-3%
\$10,000 to \$19,999	30.89	9%	30.805	30.612	30.383	30.086	29.75	-4%
\$20,000 to \$29,999	32.868	10%	32.776	32.574	32.331	32.024	31.668	-4%
\$30,000 to \$44,99	46.414	13%	46.285	45.995	45.649	45.226	44.734	-4%
\$45,000 to \$59,999	42.648	12%	42.691	42.602	42.451	42.25	41.984	-2%
\$60,000 to \$74,999	41.685	12%	42.526	43.289	43.965	44.586	45.142	8%
\$75,000 to \$99,999	53.876	16%	55.339	56.801	58.248	59.736	61.261	14%
\$100,000 to \$124,999	32.519	9%	33.438	34.349	35.259	36.196	37.158	14%
\$125,000 to \$149,999	17.436	5%	17.934	18.424	18.915	19.424	19.945	14%
\$150,000 to \$199,999	14.742	4%	15.173	15.596	16.022	16.461	16.91	15%
\$200,000 or MORE	12.434	4%	12.801	13.164	13.528	13.903	14.285	15%

- Households with money income under \$60,000 is projected to decrease
- 22% of households in the CBSA are forecast to have incomes over \$100,00 in 2020
- The number of households with money income over \$100,000 increases by 14% between 2020 and 2025, another positive indicator of economic health for the region



MEDICAL CENTER BEHAVIORAL HEALTH SERVICES

Referral Sources, Inpatient Utilization, Payer Mix



Medical Center Psychiatric Inpatient Utilization

Primary Substance Use Diagnoses

Year	Admissions	Patient Days	ADC / Beds	ALOS
2017	235	1,990	5	10.8
2018	164	1,268	3	7.6
2019	158	1,287	4	7.8
2020	168	1,728	5	9.7
Median	166	1,508	4	8.7

Primary Psychiatric Diagnoses

Year	Admissions	Patient Days	ADC / Beds	ALOS
2017	805	11,013	30	12.0
2018	927	12,945	35	12.9
2019	1,024	15,408	42	10.8
2020	950	14,888	41	14.3
Median	939	13,917	38	12.4

- Utilization for primary alcohol and drug disorders has fluctuated some but this often due to bed availability in a "mixed" mental health and alcohol/drug treatment inpatient unit
- 18% of total admissions from 2017-2020 are for a primary alcohol/drug diagnosis

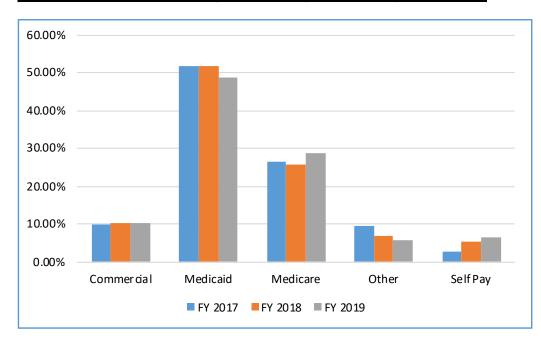
Source: Medical Center. 2020 annualized,

excludes "Null" Diagnoses



Medical Center Hospital Inpatient Psychiatric Unit Payer Mix

Payer Class	FY 2017	FY 2018	FY 2019
Commercial	9.87%	10.19%	10.28%
Medicaid	51.69%	51.81%	48.64%
Medicare	26.30%	25.69%	28.69%
Other	9.38%	6.93%	5.85%
Self Pay	2.76%	5.38%	6.54%
Total	100.00%	100.00%	100.00%

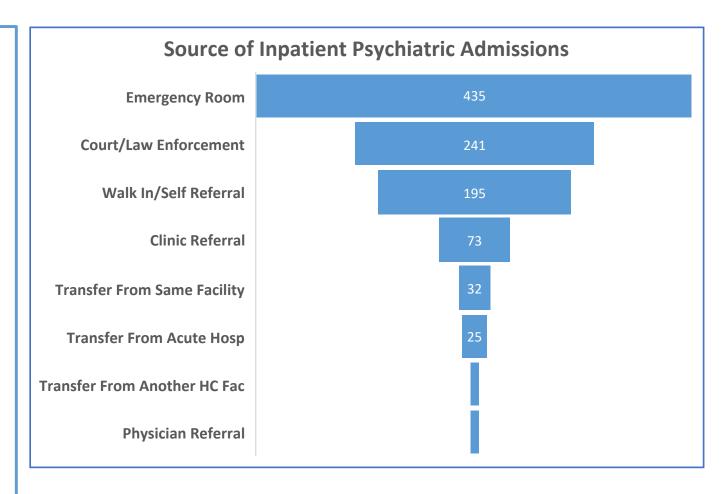


- The top two payers from 2017 – 2019 for the inpatient psychiatric unit are:
 - 1. Medicaid
 - 2. Medicare
- This is consistent with national billing for Mental Health and Substance Use Disorders:
 - 1. Medicaid
 - 2. Medicare



Medical Center's Inpatient Psychiatric Referral Sources

- The Emergency
 Room is the major
 source (43%) of
 referrals to the
 psychiatric unit
- Courts and Law Enforcement are second at 24% of referrals
- 34% of referrals to all Substance Use providers in the 6 County Region are from the Courts and Law Enforcement
- This supports a regional need for services for this population, e.g. a Sobering Center





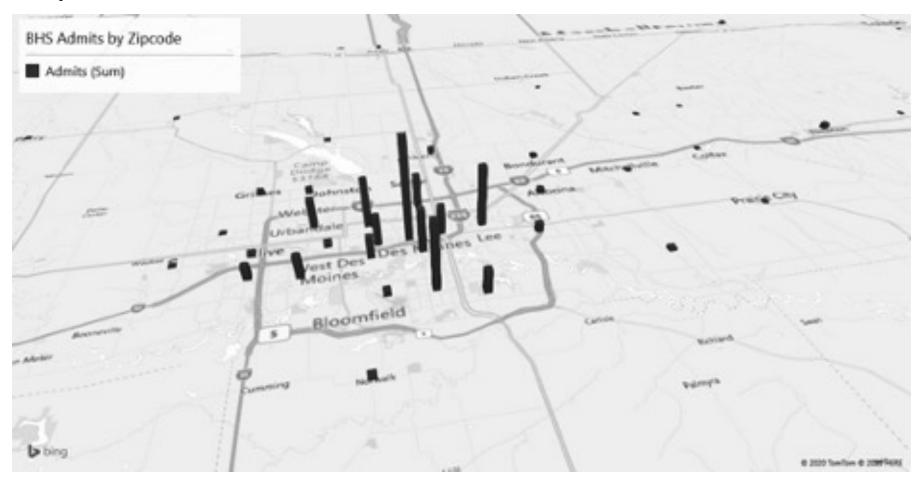
Medical Center Behavioral Health Admissions by Zip Code – Map 1



Admissions to the inpatient psychiatric unit come from a wide geographical area



Medical Center Behavioral Health Admissions by Zip Code – Map 2



The largest volume of admissions come from the Des Moines and West Des Moines area



MARKET SUBSTANCE USE TREATMENT UTILIZATION

Inpatient Admission



Inpatient Hospital Primary Substance Use Treatment Discharges in the Market & 2020-2025 Forecast

Market Region Historical Discharges

Inpatient Behavioral Health Program	Yr2016	Yr2017	Yr2018	Yr2019
Des Moines - Broadlawns Medical Center	258	220	179	180
Des Moines - MercyOne Des Moines Medical Center	412	402	415	338
Des Moines - UnityPoint Health - Iowa Lutheran Hosp	248	270	317	260
Des Moines - UnityPoint Health - Iowa Meth Med Center	78	72	77	68
Total	996	964	988	846

Market Region Historical and Forecasted Discharges

There is a declining trend in primary Substance Use treatment discharges in the market. Utilization may be impacted by the lack specialized alcohol/drug treatment beds, higher mental health vs. substance use occupancy, and use of nonhospital residential and outpatient treatment programs.

Forecasted discharges begin in 2020. Forecast is middle bound and uses the (AAA) additive error, additive trend and additive seasonality version of the Exponential Smoothing (ETS) algorithm



Year	Discharges
2016	996
2017	964
2018	988
2019	846
2020	820
2021	771
2022	722
2023	674
2024	625
2025	576
	2016 2017 2018 2019 2020 2021 2022 2023 2024

Substance Use Treatment Services in the State and the 6 County Region by Service Type

Region	Detox, 24- hour, hospital inpatient	hour, free- standing	Residential, hospital (non-		Residential, long term (more than 30 days)	intensive	Ambulatory, non-intensive outpatient	Ambulatory, detoxification	Total
Iowa	194	860	9	3,026	329	4,923	14,433	13	23,787
Des Moines CBSA	187	3		157	45	949	1,602	5	2,948
% of State	96.4%	0.3%	0.0%	5.2%	13.7%	19.3%	11.1%	38.5%	12.4%

- The Core Based Statistical Area providers delivered care to 12% of the State in 2017 (TEDS data)
- Hospitals provided 96% of hospital inpatient detoxification
- But less than 1% of detox cases in free-standing residential treatment facilities
- It also, in that year, provided 5% percent of the short-term residential treatment and
- About 14% of the State's cases for longer term residential care



PREVALENCE OF SUBSTANCE USE DISORDER & NEEDING BUT NOT RECEIVING TREATMENT IN A SPECIALIZED FACILITY

National, Midwest and the State



Prevalence of Substance Use Disorder in the Region, Needing But Not Receiving Treatment

- Based on the National Survey of Drug Use and Health, the State (9.6% of the adult population) has a higher prevalence of Substance Use Disorder than the United States (7.52%) in 2019
- This also holds when compared to the Midwest Region of the country (State = 9.6%, Midwest = 7.78%)
- Also based on the NSDUH, the State has a higher number of adults who needed but did not receive treatment in a specialized facility (State = 7.93%, US = 7.13%) in 2019
- This also applies when comparing the State to the Midwest Region of the country (State = 7.93%, Midwest = 6.81%)



Substance Use Disorder Prevalence and Needing But Not Receiving Treatment in the Region

- Applied to the 6 County adult population, there are an estimated 48,000 people with a Substance Use Disorder in 2020
- This increases to about 51,300 adults by 2025
- The number of adults in the 6 County region Needing but Not Receiving Treatment in a Specialized Facility in the past year is 40,850 in 2020
- This number is forecast to decrease slightly by 2025 to about 38,270 adults



Prevalence Substance Use Disorder

Year	United States Prevalence	Midwest Prevalence	lowa Prevalence	lowa Compared to the US	lowa Compared to Midwest
Yr 2010-2011	8.51%	7.83%	8.83%	0.32%	1.00%
Yr 2011-2012	8.46%	8.70%	8.94%	0.48%	0.24%
Yr 2012-2013	8.66%	8.80%	8.22%	-0.44%	-0.58%
Yr 2013-2014	8.47%	8.57%	8.10%	-0.37%	-0.47%
Yr 2014-2015	8.47%	8.91%	8.21%	-0.26%	-0.69%
Yr 2015-2016	7.93%	8.05%	8.03%	0.10%	-0.02%
Yr 2016-2017	7.68%	8.00%	9.20%	1.52%	1.20%
Yr 2017-2018	7.67%	7.83%	9.13%	1.46%	1.30%
Yr 2018-2019	7.52%	7.78%	9.60%	2.09%	1.82%
Yr 2019-2020	7.37%	7.71%	9.12%	1.75%	1.41%
Yr 2020-2021	7.23%	7.65%	9.16%	1.93%	1.51%
Yr 2021-2022	7.09%	7.59%	9.19%	2.10%	1.61%
Yr 2022-2023	6.95%	7.52%	9.23%	2.28%	1.71%
Yr 2023-2024	6.80%	7.46%	9.26%	2.46%	1.81%
Yr 2024-2025	6.66%	7.39%	9.30%	2.64%	1.91%
Yr 2020-2025 Median	7.02%	7.55%	9.21%	2.19%	1.66%

Source: NSDUH. 2019-2025 Projected

- The
 prevalence
 of Substance
 Use Disorder
 is higher in
 the State
 compared to
 the United
 States as a
 whole and to
 the Midwest
 Region of the
 country
- The difference is factored into the demand for treatment



Needing but Not Receiving Treatment in a Specialized Facility

Year	United States	Midwest	lowa	lowa Compared to	lowa Compared to
i Cai	Needed Tx Needed Tx Needed Tx		Needed Tx	the US	Midwest
Yr 2010-2011	6.70%	8.99%	9.59%	2.89%	0.60%
Yr 2011-2012	6.62%	9.17%	9.17%	2.55%	0.00%
Yr 2012-2013	8.66%	9.12%	8.06%	-0.60%	-1.06%
Yr 2013-2014	8.47%	8.89%	8.29%	-0.18%	-0.60%
Yr 2014-2015	8.56%	8.90%	8.24%	-0.32%	-0.66%
Yr 2015-2016	7.36%	7.43%	7.56%	0.20%	0.13%
Yr 2016-2017	7.11%	7.31%	8.58%	1.47%	1.27%
Yr 2017-2018	7.11%	7.18%	8.25%	1.14%	1.07%
Yr 2018-2019	7.13%	6.81%	7.93%	0.80%	1.12%
Yr 2019-2020	7.15%	6.49%	7.76%	0.61%	1.27%
Yr 2020-2021	7.17%	6.17%	7.60%	0.43%	1.43%
Yr 2021-2022	7.19%	5.85%	7.43%	0.24%	1.58%
Yr 2022-2023	7.21%	5.53%	7.27%	0.06%	1.74%
Yr 2023-2024	7.23%	5.21%	7.10%	-0.12%	1.89%
Yr 2024-2025	7.24%	4.89%	6.93%	-0.31%	2.05%
Yr 2020-2025 Median	7.20%	5.69%	7.35%	0.15%	1.66%

Source: NSDUH. 2019-2025 Projected



- The percentage of adults in the State Needing but Not Receiving Treatment is about the same compared to the United States as a whole but 1.66% higher compared to the Midwest
- The difference is factored into the demand for treatment

Projected Prevalence of Substance Use Disorder & Needing But Not Receiving Specialized Treatment in the 6 County Region

Year	6 County Adult Pop	Substance Use Disorder	6 County Projected Number of Adults With Substance Use Disorder
Yr2020	526,132	9.12%	48,003
Yr2021	531,321	9.16%	48,662
Yr2022	536,443	9.19%	49,320
Yr2023	541,664	9.23%	49,989
Yr2024	546,866	9.26%	50,661
Yr2025	551,865	9.30%	51,318

As with most areas of the country, there is a large number of adults with a Substance Use Disorder in the Past Year

Year	6 County Adult Pop	I But Not Receiving TX %I	6 County Projected Number of Adults Needing but Not Receiving Treatment
Yr2020	526,132	7.76%	40,850
Yr2021	531,321	7.60%	40,371
Yr2022	536,443	7.43%	39,870
Yr2023	541,664	7.27%	39,359
Yr2024	546,866	7.10%	38,830
Yr2025	551,865	6.93%	38,269

There is also, overall in the market 38-40,000 adults Needing But Not Receiving Treatment at a Special Facility for Substance Use in the Past Year



INPATIENT SUBSTANCE USE HOSPITAL TREATMENT BED NEED

Inpatient Bed Demand



Inpatient Hospital Substance Use Treatment

Based on hospital admission use rates for a primary Substance Use disorder, current and projected discharges and patient days in the region:

- There is a need for 7 10 additional beds in the region in 2020
- By 2025, the bed shortage for this disorder increases to 11 – 18 beds
- The variance in the bed shortage is based on average lengths of stay; using the Midwest Region ALOS of 6.1 days per hospitalization results in less of a bed shortage than the ALOS of 8.7 days at Medical Center (the 8.7 days is the median LOS for 2017-2020)



Population Based Admission Rates per 100,000 Population

Substance	Primary Diagnosis	Secondary Diagnosis
Alcohol	133	372
Opioids	48	214
Stimulants	16	110
Miscellaneous	13	72
Sedatives	4	13
Cannabis	3	147
Total:	217	928

- These rates are for ages 5 and older. They are adjusted in the study for adults 18+
- Inpatient hospital admissions are based only on the Primary Diagnosis



Source: AHRQ, Statistical Brief, March 2019

Projected Inpatient Hospital Admission Shortage for a Primary Substance Use Disorder in the Market

Year	6 County Region Adult Population Age 18+	Admissions at 215	Adustment for US Iowa		Projected Inpatient Market Admissions Shortage
Yr2020	526,132	1,133	1,176	820	356
Yr2021	531,321	1,144	1,188	771	417
Yr2022	536,443	1,155	1,199	722	477
Yr2023	541,664	1,166	1,211	674	537
Yr2024	546,866	1,177	1,223	625	598
Yr2025	551,865	1,188	1,234	576	658

- Based on national utilization rates, there will be fewer inpatient hospitalizations than expected in the 6 County region
- The national hospitalization use rate is increased by 3.85%:
 - By adding the difference between the Substance Use Disorder prevalence rate in the State (higher in the State by a median of 2.19% from 2020 – 25 than the United States and
 - The difference between Needing but Not Receiving Treatment in a Specialized Facility (higher in the State than the Midwest Region by 1.66%)



Projected Inpatient Hospital Bed Shortage for a Primary Substance Use Disorder in the Market

Year	Projected Inpatient Days Shortage Using Midwest ALOS 6.1 days (SG2)	Bed Shortage @ 6.1 ALOS & 85% Occupancy	Projected Inpatient Days Shortage ALOS 8.7 Days (Broadlawns)	Bed Shortage @ 8.7 ALOS & 85% Occupancy
Yr2020	2,173	7	3,099	10
Yr2021	2,541	7	3,625	12
Yr2022	2,909	8	4,149	13
Yr2023	3,278	9	4,675	15
Yr2024	3,647	10	5,201	17
Yr2025	4,013	11	5,723	18

- There is a projected minimum inpatient hospital bed shortage for primary Substance Use disorders in the 6 county region of between 7 and 10 beds in 2020, depending on Average Length of Stay
- This shortage will increase to between 11 and 18 beds by 2025
- The higher bed need shown in the far right column is more probable since it reflects lengths of stay trends for patients in the region; these are driven by the presence or lack of local step-down resources



DETOXIFICATION, RESIDENTIAL OUTPATIENT SERVICE NEEDS

Substance Use Treatment Service Needs in the 6 County Region



Other Substance Use Treatment Service Needs

These services include:

- Detoxification, 24-hour, hospital inpatient
- Detoxification, 24-hour, free-standing residential
- Residential, hospital (non-detox)
- Residential, short term (30 days or fewer)
- Residential, long term (more than 30 days)
- Ambulatory, intensive outpatient
- Ambulatory, non-intensive outpatient
- Ambulatory, detoxification



Detox, Residential and Outpatient Alcohol/Drug Use Treatment Summary

- There is much less reported detoxification cases in the market region than expected
- It is not clear from the TEDS data that there are enough Residential Treatment services in the region; without counting the Prelude 2019 volume, the area has significantly fewer than needed beds
- Including the Prelude 2019 volume reported to us, the region has about the right amount of Residential Treatment beds
- The number of Outpatient cases for both regular and intensive ambulatory treatment is just slightly higher than expected and, for most communities, a positive accomplishment



Detoxification: Expected Cases by Service Type & Year

Detoxification	2020 CBSA Estimated Cases Based on 2017 TEDS (Population Adjusted)	2020 Expected Cases	2021 Expected Cases	2022 Expected Cases	2023 Expected Cases	2024 Expected Cases	2025 Expected Cases
Detox, 24-hour, hospital inpatient	192	8	8	9	9	9	9
Detox, 24-hour, free- standing residential		412	413	422	427	433	438
Ambulatory, detoxification	5	50	50	51	52	52	53
Total Detox	200	470	472	482	488	494	500
Expected-Actual		271	272	282	288	294	300
Percent Less than Expected		-135%	-136%	-141%	-144%	-147%	-150%

- The expected number of detoxification cases is much less than expected
- Compared to TEDS volume for the Midwest with detox occurring in a freestanding residential facility, detox services in the 6 County region are almost totally in a hospital setting



Residential Treatment: without Prelude Data Reported to Schafer

Consulting by Medical Center

Residential Without Prelude Volume	2020 CBSA Estimated Cases Based on 2017 TEDS (Population Adjusted)	2020 Expected Cases	2021 Expected Cases	2022 Expected Cases	2023 Expected Cases	2024 Expected Cases	2025 Expected Cases
Rehab/residential,							
hospital (non-							
detox)	-	12	12	12	12	12	13
Rehab/residential, short term (30 days or fewer)	160	490	492	503	509	515	521
Rehab/residential, long term (more							
than 30 days)	44	221	221	226	229	231	234
Total Residential	204	723	725	741	750	759	768
Expected-Actual		519	521	537	546	555	564
Percent Less than Expected		-254%	-255%	-263%	-268%	-272%	-276 %

- This compares TEDS reported Residential Treatment for Substance Use Disorders compared to expected volumes based on the TEDS use rates
- As with Detox, there is a significant shortage of residential treatment services



Residential Treatment: with Prelude Data Reported to Schafer Consulting by Medical Center

Residential With Prelude Volume	2020 CBSA Estimated Cases Based on 2017 TEDS (Population Adjusted)	2020 Expected Cases		2022 Expected Cases	Expected	2024 Expected Cases	2025 Expected Cases
Rehab/residential, hospital (non-detox)	-	12	12	12	12	12	13
Rehab/residential, short term (30 days or fewer)	720	490	492	503	509	515	521
Rehab/residential, long term (more than 30 days) *	44	221	221	226	229	231	234
Total Residential	764	723	725	741	750	759	768
Actual-Expected Percent	More than Expected	5%	40 6%	24 6%	15 6%	5 6%	(3) 5%

- This compares TEDS reported Residential Treatment compared to expected volumes based on the TEDS use rates plus the inclusion of 720 adult reported cases at Prelude in 2019
- With the Prelude volume, there is a close match between expected and actual residential treatment cases

Outpatient: Expected Cases by Ambulatory Service Type & Year

Outpatient	2020 CBSA Estimated Cases Based on 2017 TEDS (Population Adjusted)	2020 Expected	Expected	2022 Expected Cases	2023 Expected Cases	Expected	2025 Expected Cases
Ambulatory, intensive outpatient	884	747	749	765	775	784	793
Ambulatory, non- intensive outpatient		1,258	1,261	1,289	1,305	1,320	1,336
Total Outpatient	7	2,005	2,010	2,054	2,079	2,104	2,129
Actual-Expected		270	265	220	195	170	145
Percent More than Expected		12%	13%	13%	13%	13%	13%

- Total Outpatient Substance Use Disorder treatment cases run about 12% higher than expected based on the TEDS data for the Des Moines West Des Moines CBSA
- Using Outpatient more than Residential treatment is an often-described goal of many communities



ADDITIONAL PLANNING DATA

Referral Sources, Arrests, Sobering Center, Days Waiting for Treatment, Primary Source of Payment for Treatment – All for Adults Age 18+



Substance Use Treatment Referral Sources in the 6 County Region

Region	Individual (includes self- referral)	Alcohol/drug use care provider	Other health care provider	School (educational)	Employe r/EAP	Other community referral	Court/criminal justice referral /DUI/DWI	Total Cases
6 County Region	856	323	214	1	8	399	947	2,748
6 County Percent	31%	12%	8%	0.0%	0.3%	15%	34%	100%
lowa	5,350	1,842	1,277	16	156	2,475	11,045	22,163
Iowa Percent	24%	8%	6%	0.1%	1%	11%	50%	100%

- Six County Region: 34% of referrals for Substance Use treatment come from the Courts, Criminal Justice System; these include referrals for DUI's and DWI's
- State: 50% of referrals come from the Courts, Criminal Justice System
- Addressing the needs of the Courts and Criminal Justice System is an important role for the alcohol and drug treatment agencies
- Some communities have developed "Sobering Centers" so that police can more quickly get individuals who are drunk or high into a safe setting especially those not requiring hospital Emergency Department care



Days Waiting to Enter Treatment: 6 County Region

Service in 6 County Region	0 Days	1-7 Days	8-14 Days	15-30 Days	31 Days or More	Total	Weighted Average
Detox, 24-hour, hospital inpatient	176	8	2	1		187	0
Detox, 24-hour, free-standing residential	2				1	3	15
Rehab/residential, short term (30 days or fewer)	148	7	1			157	0
Rehab/residential, long term (more than 30 days)	41	2		1		45	1
Ambulatory, intensive outpatient	453	400	19	13	1	895	2
Ambulatory, non-intensive outpatient	1,304	89	35	8	5	1,456	1
Ambulatory, detoxification	3	1	1			5	3
Total	2,127	507	58	23	7	2,748	1.3
Percent	77%	18%	2%	1%	0%	100%	

State Days Waiting to Enter Treatment

Iowa Total	9,660	5,925	3,212	2,363	895	22,163	6.9	
Iowa Percent	44%	27%	14%	11%	4%	100%		

• The overall weighted average wait time to enter treatment in the 6 County Region is 1.3 days compared to 6.9 days for the State as a whole



Days Waiting to Enter Treatment: State Detail

Service in Iowa	0 Days	1-7 Days	8-14 Davis	15-30 Davis	31 Days or	Total	Weighted
			Days	Days	More	Cases	Average
Detox, 24-hour, hospital inpatient	180	8	3	2		194	0.6
Detox, 24-hour, free-standing residential	739	69	26	15	10	859	1.6
Rehab/residential, hospital (non-detox)	2	5	1		1	9	8.5
Rehab/residential, short term (30 days or fewer)	526	1,029	757	431	158	2,922	10.1
Rehab/residential, long term (more than 30 days)	89	56	14	14	26	205	9.4
Ambulatory, intensive outpatient	2,272	1,551	404	310	135	4,703	5.1
Ambulatory, non-intensive outpatient	5,843	3,205	2,006	1,591	565	13,258	7.3
Ambulatory, detoxification	9	2	1			13	1.6
Total	9,660	5,925	3,212	2,363	895	22,163	6.9
Percent	44%	27%	14%	11%	4%	100%	

- 44% of adults have no wait to start treatment, 27% wait 1-7 days but 6,470 (29%) wait at least 8 days to receive care
- Using median values for days waiting, and weighted average of cases, the longest overall wait times are for Short- and Long-Term Residential Treatment



Arrests 30 Days Prior to Substance Use Treatment Admission by Region

Region	Unknown	None	Once	Two or More Times	Total
United States	18%	75%	5%	1%	100%
Midwest	1%	89%	8%	1%	100%
lowa	0.1%	88%	11%	1%	100%
6 County Region	0.3%	89%	10%	0.8%	100%

- The state has a slighter higher percentage of one arrest prior to admission compared to the Midwest as a whole and to the 6 County Region
- There are overall few arrests within the 30 days prior to individuals starting treatment in a specialized substance abuse program
- However, this is only capturing arrests in the 30 days leading up to an admission; the number is likely greater as the time frame increases, e.g. to 60 days, 90 days or longer
- Although percentages are in the 10-12% range for one or more arrests 30 days prior to admission, the actual number of people is significant for planning in the following tables and warrants community approaches like a Sobering Center and involvement of the Courts and Police in service planning



Arrests 30 Days Prior to Substance Use Treatment Admission in the 6 County Region

6 County Region Service	Unknown	None	Once	Two or More Times	Total Cases
Detox, 24-hour, hospital inpatient		176	11		187
Detox, 24-hour, free-standing residential		2	1		3
Residential, short term (30 days or fewer)		136	20	1	157
Residential, long term (more than 30 days)	1	39	5		45
Ambulatory, intensive outpatient		807	82	6	895
Ambulatory, non-intensive outpatient	5	1,286	151	14	1,456
Ambulatory, detoxification	1	4			5
Total	7	2,450	270	21	2,748
Percent	0.3%	89.2%	9.8%	0.8%	100.0%

- The largest number of adults arrested 30 days prior to admission are entering Non-Intensive and Intensive Outpatient treatment in the 6 County Region
- 89% of all adults entering treatment have no arrests in the previous 30 days



Arrests 30 Days Prior to Substance Use Treatment Admission in the State

Service	Unknown	None	Once	Two or More Times	Total Cases
Detox, 24-hour, hospital inpatient		183	11		194
Detox, 24-hour, free-standing residential		754	85	20	859
Residential, hospital (non-detox)		7	2		9
Residential, short term (30 days or fewer)		2,590	283	49	2,922
Residential, long term (more than 30 days)	1	185	17	2	205
Ambulatory, intensive outpatient	2	4,170	483	48	4,703
Ambulatory, non-intensive outpatient	8	11,578	1,599	73	13,258
Ambulatory, detoxification	2	11			13
Total Cases	13	19,478	2,480	192	22,163
Percent	0%	88%	11%	1%	100%

- The largest number of adults arrested 30 days prior to admission are entering Non-Intensive and Intensive Outpatient treatment in the State
- The third largest number of adults arrested 30 days prior to admission are going into a Short-Term Residential Treatment setting
- 88% of all adults entering treatment have no arrests in the previous 30 days



Arrests 30 Days Prior to Substance Use Treatment Admission in the Midwest US

Service	Unknown	None	Once	Two or More Times	Total Cases
Detox, 24-hour, hospital inpatient	41	720	47	17	825
Detox, 24-hour, free-standing residential	859	36,912	1,928	472	40,171
Residential, hospital (non-detox)	269	838	27	22	1,156
Residential, short term (30 days or fewer)	145	42,236	4,897	534	47,812
Residential, long term (more than 30 days)	311	18,570	2,369	247	21,497
Ambulatory, intensive outpatient	777	65,665	5,787	582	72,811
Ambulatory, non-intensive outpatient	1,421	109,942	9,865	1,376	122,604
Ambulatory, detoxification	62	3,944	707	144	4,857
Total Cases	3,885	278,827	25,627	3,394	311,733
Percent	1%	89%	8%	1%	100%

- The largest number of adults arrested 30 days prior to admission are entering Non-Intensive and Intensive Outpatient treatment in the State
- The third largest number of adults arrested 30 days prior to admission are going into a Short-Term Residential Treatment setting
- 89% of all adults entering treatment have no arrests in the previous 30 days



Primary Source of Payment for Adults Age 18+ Substance Use Treatment by Region

Region	Missing	Self Pay	Private Ins, BC/BS, HMO	Medicare	Medicaid	Other Gov	No Charge	Other	Total Cases
6 County	2%	7%	22%	3%	47%	17%	2%	0%	100%
Iowa	0.9%	11%	17%	1%	46%	22%	1%	1%	100%
Midwest	53%	4%	3%	0.4%	17%	15%	4%	3%	100%

- Compared to the State and the Midwest US, the 6 County Region has the highest rate of payment by Private, BC/BS, and HMO health insurance
- The 6 County region also has the highest percentage of Medicaid
- Adults seeking specialized substance use treatment will often travel outside their local area to help ensure privacy and for programs with a higher quality internet review. Organizations considering new services, especially bed-based like Residential Treatment typically consider location as a factor in planning
- Note: payment sources for the Midwest US are poorly measured in the data due to the high number of missing cases for this metric.
- Note: this data does not generally include hospital based inpatient substance use treatment



Primary Source of Payment for Substance Use Treatment by Service Type and Payer in the 6 County Region

6 County Region Service	Missing	Self Pay	Private Ins, BC/BS, HMO	Medicare	Medicaid	Other Gov	No Charge	Other	Total Cases
Detox, 24-hour, hospital inpatient	1	13	93	15	65				187
Detox, 24-hour, free-standing residential			1		1	1			3
Residential, short term (30 days or fewer)	1	1	37	3	72	38	5		157
Residential, long term (more than 30 days	2	1	1		27	13	1		45
Ambulatory, intensive outpatient	16	120	257	27	352	66	54	3	895
Ambulatory, non-intensive outpatient	27	71	208	43	763	337	4	3	1,456
Ambulatory, detoxification	3				2				5
Total Cases	50	206	597	88	1,282	455	64	6	2,748
Percent	2%	7%	22%	3%	47%	17%	2%	0%	100%

- Medicaid is the most frequent source of payment for adults entering treatment followed by Private Insurance and Other Government funding
- These three payers accounted for 85% of primary payment sources
 Planning expanded or new treatment services in the 6 County Region
 would factor these payer sources for non-hospital-based programs



Primary Source of Payment for Substance Use Treatment by Service Type and Payer in the State

Iowa Service	Missing	Self Pay	Private Ins, BC/BS, HMO	Medicare	Medicaid	Other Gov	No Charge	Other	Total Cases
Detox, 24-hour, hospital inpatient	1	13	95	15	67	2		1	194
Detox, 24-hour, free-standing residential	15	56	129	2	362	289	3	3	859
Residential, hospital (non-detox)					8	1			9
Residential, short term (30 days or fewer)	16	145	347	35	1,335	1,031	10	3	2,922
Residential, long term (more than 30 days)	14	11	4	3	130	40	2	1	205
Ambulatory, intensive outpatient	41	370	1,116	98	2,307	660	85	26	4,703
Ambulatory, non-intensive outpatient	112	1,829	2,030	133	6,080	2,850	89	135	13,258
Ambulatory, detoxification	4				9				13
Total Cases	203	2,424	3,721	286	10,298	4,873	189	169	22,163
Percent	0.9%	11%	17%	1%	46%	22%	1%	1%	100%

- Medicaid is the most frequent source of payment for adults entering treatment followed by Other Government funding and Private Insurance
- These three payers account for 85% of primary payment sources in the State
- These are key in considering new non-hospital based inpatient substance use treatment services or beds



ADDENDUM

Data Sources, Methodology, Geographical Regions



Data Sources

- Woods & Poole Economics, 2019 State Profile Series
- Substance Abuse and Mental Health Services, National Surveys on Drug Use and Health 2010 – 2019
- Substance Abuse and Mental Health Services, Treatment Episode Data Sets 2016 2017
- Substance Abuse and Mental Health Services, National Survey of Substance Abuse Treatment Services, 2017 – 2018
- Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project Reports, National and State Inpatient Sample (NIS) 2018 – 2019
- SG2 Analytics & Disease Based Forecasts, Impact of Change, 2018; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2015. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts, 2018; Sg2 Analysis, 2018
- Medical Center
- State Hospital Association
- Department of Public Health. Division of Behavioral Health. Bureau of Substance Abuse.
 State Epidemiological Workgroup 2018 State Epidemiological Profile 2018
- US Census Bureau



Methodology

- The study is a demand analysis using researched population and disease-based prevalence and use rates for Substance Use disorders
- These core rates are applied to current and projected age-adjusted population demographics over a five-year period
- The need for substance abuse treatment services in the region is assessed by comparing known service volumes (where available) with expected future volumes
- Utilization and other measures are forecast from 2020 through 2025 using available historical data, most often from federal public use data files



Geographical Regions Used

The Midwest Census Region used in the analysis includes:

Iowa Kansas

Illinois Minnesota

Indiana Missouri

Michigan Nebraska

Ohio North Dakota Wisconsin South Dakota

The Market Region used in the study includes:

- Core Based Statistical Area (CBSA) and the
- Six Counties within the CBSA



Treatment Episode Data Sets

- TEDS is a compilation of client-level data routinely collected by the individual state administrative data systems to monitor their substance use treatment systems
- Generally, facilities that are required to report to the state substance abuse agency (SSA) are those that receive public funds and/or are licensed or certified by the SSA to provide substance use treatment (or are administratively tracked for other reasons)
- The most recent publicly available TEDS-D is from 2017
- Data in the report has been population adjusted to 2020
- All data is for adults age 18+



Treatment Episode Data Sets

- TEDS is less reliable than the National Survey on Drug Use and Health for prevalence. This is partly because of the way different states categorize and report Substance Use Treatment services (e.g. 24-hour hospital inpatient detoxification may not be counted in TEDS but in the National Inpatient Sample, or vice versa)
- The volume projections may have a margin of error (likely 15-20%) due to the variability in the way the State and other states in the Midwest report data, so any conclusions about projections and estimates should be tempered by local experience
- Projected service need data is based on the Midwest Census Region utilization - use rates per 100,000 applied to the 6 County Market Region and forecast from 2020 – 2025 based on the Region's age adjusted adult population



REPORT END

Schafer Consulting Inc.

